ABSTRACT

Accurate measurement of a signal at extremely high data rates such as OC192 is accomplished, to provide a high dynamic range. A data receiver comprises a limiting amplifier comprising a plurality of amplifier stages. A peak detector measures a voltage level of an input to the limiting amplifier. An input to the peak detector is connected directly to an input of a first stage of the limiting amplifier. Transmission lines used between the input to the peak detector and the input of the first stage of the limiting amplifier are impedance matched such that the peak detector appears as a load with insignificant capacitance with respect to the extremely high data rate of a signal on the input. Also, a same bias is provided to both the input stage of the limiting amplifier as well as to the peak detector.